

Design requirements for residential properties – recycling and waste management



Guidance for provision of suitable storage and access for waste and recycling collections in Somerset and requirements for successful planning proposals.

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1.0 Introduction

Design requirements set out in this document by SWP refers to new build and redevelopment of domestic properties. It does not include guidance on waste and recycling storage from commercial or industrial premises although some general design issues are shared.

The advice noted in the following checklist should be considered prior to the formal submission of a planning application.

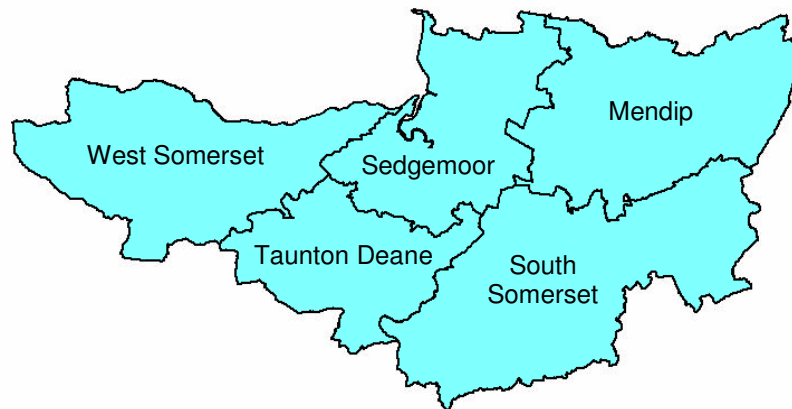
- Has space been allocated for refuse and recycling storage as directed by Somerset Waste Partnership Guidance?
- Have I provided enough refuse and recycling capacity for the number of planned households?
- Have I checked collection points with Somerset Waste Partnership and located bin storage areas accordingly?
- Have I ensured that bins can be moved/accessed easily by the householder and the refuse and recycling collectors?
- Has appropriate access been provided for the most recent specification of collection vehicles? (You should check you have the latest version enclosed with this document).
- Has space been allocated for recycling containers and food waste caddies inside the dwelling to facilitate waste segregation?
- Have special considerations stated for specific types of redevelopments been applied as appropriate?

If the answer to any of these questions is 'no' then your proposal is unlikely to be acceptable for a new development.

If in doubt please note, officers from Somerset Waste Partnership, District Borough and County Councils will be pleased to discuss your proposals prior to plans being submitted.

2.0 Allocating space for domestic refuse and recycling storage

Somerset Waste Partnership (SWP) manages waste functions on behalf of the 5 Waste Collection Authorities in Somerset (Mendip, Sedgemoor, South Somerset and West Somerset District Councils and Taunton Deane Borough Council) and the Waste Disposal Authority (Somerset County Council).



Waste Collection Authorities have legal powers to stipulate the type and number of containers to be used and where the containers should be placed through the Environmental Protection Act 1990, section 46 (receptacles for household waste) and section 47 (receptacles for commercial or industrial waste). Building Regulations 2000 (Document H6) also sets out standards to ensure waste storage areas are fit for purpose to ensure safe, convenient and efficient collection service.

Applicants for planning permission are reminded that waste and recycling collection services are likely to change to ensure continued improvement – this may change the number and/or type of receptacles issued to households. It is advisable to contact SWP to confirm that the information contained in this document is still applicable.

SWP prides itself on delivering high performing effective and innovative collection services for refuse and recycling. From autumn 2011, collection methods will be

standardised across the county to Sort It Plus, with the exception of dwellings serviced by communal style collections. The majority of Somerset households receive the following collections managed by Somerset Waste Partnership:

- Weekly collections of food waste for composting (via 23L 'lockable' bin)
- Weekly collections of dry recyclables (paper, glass bottles & jars, clothes & shoes, car batteries) (via a 44 litre recycling box without a lid)
- Weekly collections of plastic bottles, cans and cardboard (via 55 litre recycling box without a lid)
- Fortnightly collections of refuse (via wheeled bins wherever practicable)
- Fortnightly collections of garden waste on payment of subscription (via wheeled bins wherever practicable)



SWP prefers each dwelling to have its own containers for recycling and waste collections wherever this is practical as this encourages responsibility for waste generation and the separation of materials for recycling and composting. Storage of containers may be provided in a space integral to the individual property design or in a dedicated communal storage area with suitable access for occupiers and collectors.

The majority of dwellings in Somerset are provided with a curtiledge collection from individual containers placed adjacent to the public highway on the appropriate collection day. This includes a 23L lockable food waste bin to present this waste for composting and an additional smaller caddy to use within the kitchen to store food waste until convenient to transfer it to the food waste bin

Communal collections of waste and/or recycling are sought where individual containers are not provided under Sort It Plus. Communal collection options for refuse are considered for dwellings in clusters of 6 or more (see Table A).

Communal collections typically use larger wheeled bins (240 – 1100 litres) for recyclable materials and refuse in situations where communal storage facilities are deemed more appropriate by SWP. At the time writing, the range of materials collected from communal collections is fewer than offered under Sort It Plus,

namely paper, cans and glass bottles and jars. Options are being explored to offer collections of food waste, plastic bottles and cardboard to those on a communal recycling service.

Examples of containers and collection systems used for different arrangements of dwellings are given below. With the exception of Example 1, please note the examples are given for illustrative purposes only - you are strongly advised to check the preferred collection method and storage requirements for any proposed development with SWP.

Storage space must exceed the footprint of the containers to enable easy access, use and manoeuvring of containers by occupants and collectors alike.

Example 1) Households with curtiledge adjacent to the public highway or other suitable means of access.

Individual containers for each dwelling preferred for refuse and recycling services. As a minimum, storage must be sufficient for:

- 1 x 180 litre wheeled bin for refuse
- 2 kerbside boxes
- 1 x food waste bin
- 1 x kitchen caddy
- Additional 180 litre green wheeled bin(s) for households with gardens to enable subscription to garden waste collection service.

Collection containers to be presented at the curtiledge of individual dwellings on collection day. Access and storage must be given particular consideration for terraced houses.



Example 2) Small clusters of flats, a small block of flats or dwellings with particular storage/access constraints.

Examples include (multiple occupancy) dwellings around a central courtyard or shared housing square with restricted vehicle access. Typically from around 6 properties

Individual boxes / bins may be acceptable (as set out in Example 1);

Consideration would be given to communal refuse option with individual food bins and recycling boxes, or both communal refuse and recycling options.

Minimum numbers of containers are determined by number of dwellings (see Table B: Refuse and Recycling Capacity).

Communal refuse bins and recycling facilities to be stored in communal areas that satisfy design requirements contained within this guidance.

All containers are either to be presented for collection on ground floor at the curtiledge of individual dwellings by the occupant or stored in communal areas that satisfy design requirements contained within this guidance.



Example 3) Larger developments of dwellings of multiple occupancy or dwellings with particular storage/access constraints.

Examples include blocks of multiple occupancy dwellings, large blocks of flats, dwellings around a central courtyard or shared housing square with restricted vehicle access (where this cannot be avoided).



Communal bins are a preferred option for both refuse and recycling collection services.

Minimum numbers of containers are determined by number of dwellings (see Table B: Refuse and Recycling Capacity).

Communal refuse bins and recycling facilities are to be stored in communal areas that satisfy design requirements contained within this guidance.



3.0 Domestic refuse and recycling capacity

To satisfy the requirements of H6 of The Building Regulations 2000 solid waste storage should be *“of sufficient area having regard to the requirements of the waste collection authority for the number and size of receptacles under sections 46 and 47 of the Environmental Protection Act 1990.”*

For domestic dwellings suitable for individual containers (see example 1 in section 2), sufficient storage space must be provided for the suite of containers stated as a minimum.

The sizes of the containers used for Somerset household waste collections are given in Table A. An indication of number and type of communal containers that can be provided for clusters of properties are shown in Table B. The total number of bins should be kept to a minimum to maximise operational efficiency and developers should consult with SWP as early as possible in the design stage if considering communal collection options.

At present, communal recycling collections typically uses sets of 240 litre bins. However, larger bins may be introduced in future for the collection of plastic bottles and card. In addition, special communal bins for food waste may be introduced. Table C provides information to estimate possible changes to container requirements regarding proposed potential service developments.

Table A Sizes of containers




Container Type & Uses (part 1 of 2)	Size	Height	Width	Depth	Height (open lid)	Notes
 <p>'two-wheeled' bins household refuse and garden waste</p>	140 Litre (small)	1070 mm	480 mm	555 mm	mm	Household refuse bin sizes are 140L on request, 180L as standard or 240L for larger households on application. Optional Garden Waste bin (chargeable collections) via 180 Litre wheeled bin for Somerset households.
	180 Litre (standard)	1070 mm	480 mm	730 mm	mm	
	240 Litre (large)	1065 mm	575 mm	735 mm	mm	
 <p>'four-wheeled' bins communal household refuse only*;</p>	660 Litre (small)	1190 mm	1360 mm	780 mm	mm	*being considered for household communal recycling collections for plastic bottles/card in future.
	1100 Litre (standard)	1335 mm	1360 mm	1030 mm	mm	
 <p>Kitchen Caddy and Food Waste Bin Households to separate and present food waste for composting (kitchen caddy not shown).</p>	Food Waste Bin (23L)	410 mm	320 mm	400 mm	mm	Typically only one required per household, but additional food waste bins provided on request if appropriate.
	Kitchen Caddy (5L)	205 mm	270 mm	250 mm	mm	

Table A Sizes of containers (continued)

Container Type & Uses (part 2 of 2)	Size	Height	Width	Depth	Height (open lid)	Notes
Kerbside recycling boxes (no lids)  Household recycling.	44 Litre box	305 mm	565 mm	440 mm	na	Households to use two boxes provided as standard under SORT IT PLUS collection. Additional boxes provided on request. Sizes may change.
	55 Litre box	350 mm	560 mm	440 mm	na	
Communal Recycling Site  Household communal recycling using clusters of 240Litre wheeled bins to separate different recyclable materials where SWP deems this more appropriate than recycling boxes for each dwelling.	Free-standing 240L bins	1065 mm (per bin)	575 mm (per bin)	735 mm (per bin)	mm (per bin)	Communal recycling sites tend to be provided in sets of 4 bins: 2 for paper, 1 for cans, 1 for glass bottles and jars. Metal frames to secure bins on a suitable hard-standing or bins can be free-standing in suitable bin enclosure. Multiple sets can be used to provide sufficient capacity as required. Communal Recycling is subject to change with inclusion of more materials – see Table C for more details.
	4x240L bin unit with frame (pictured)	1200 mm	2510 mm	900 mm	na	
	4x240L bin unit with frame and sign	1065 mm	575 mm	735 mm	na	
<p style="text-align: center;">Dimensions of containers listed correct at time of writing – Dimensions may vary depending on manufacturer’s model. You are advised to contact SWP to confirm information above is still valid.</p>						

Table B: Calculating container numbers required for current communal collections

Communal Collection Options	Container	Minimum no. of dwellings served by container	Maximum dwellings served by container	Multiple containers considered?
Refuse	1100L 'four-wheeled' bin	4	6	Yes
Refuse	660L 'four-wheeled' bin	3	3 (3.5 for multiple bin)	Consult SWP
Recycling	Free- standing 240L bins (set of 4)	10	20	Yes
Recycling	4x240L bin unit with frame/sign	10	20	Yes
Garden Waste	No communal options currently provided – provide storage space for individual '2-wheeled' bins, or home compost bins (individual/communal).			

Table C: Estimating impacts of future communal service development

Food Waste	No communal options currently provided, but being considered. This is likely have similar footprint equivalent to 240L bin. Information is pending regarding the maximum number of dwellings each of these bins will serve.
Plastic bottles	No communal options currently provided, but being considered. Plastic bottles likely to be collected in 240L, 600L or 1100L bin. Each bin size will serve a specified maximum number dwellings respectively (to be determined)
Cardboard	No communal options currently provided, but being considered. Cardboard likely to be collected in 240L, 600L or 1100L bin Each bin size will serve a specified maximum number dwellings respectively (to be determined)
Refuse	The provision of containers for segregation of bulky recyclables should reduce required refuse capacity.

4.0 Suitable collection points and bin storage areas locations

To satisfy the requirements of H6 of The Building Regulations 2000 solid waste storage should be *“sited so as to be accessible for use by people in the building and of ready access for removal to the collection point specified by the waste collection authority under Sections 46 and 47 of the Environmental Protection Act 1990”*

Guidance in Document H, states *“Containers should be within 25m of the waste collection point specified by the waste collection authority”* (section 1.8). Residents should not be required to carry waste more than 30m (excluding any vertical distance). SWP considers compliance with this maximum distance is a minimum requirement for planning permission.

SWP encourages developers to adopt best practice recommendations cited in BS5906, section 8.8.11 and design developments so the distance over which containers need to be transported by collectors should not normally be more than 15m for two-wheeled containers and 10m for four-wheeled containers to increase efficiency of collection.



In Somerset, the collection point for dwellings supplied with individual containers is from the curtilage nearest the public highway (providing vehicular access for collection vehicles). This is typically the front curtilage, but can be from the rear if suitable vehicular access is available and there is no vehicular access to the front of properties. (See section 7: Access for collection vehicles).

Collection points for communal storage areas must follow all the requirements outlined in this document and consultation with SWP is strongly advised early in the design stages. This includes requirements in the following sections regarding the design of storage areas and accessibility.

5.0 Safe (pedestrian) access, use and moving of containers

The efficacy of waste storage points is dependant on their capacity and ease of use by both the occupants and the waste collectors servicing the site. Wherever practicable, the location of storage containers at new buildings should be sited to avoid having to take these through a building, unless it is an open covered space such as a carport.

Storage areas for either individual containers or communal containers should be designed to allow access to use and move all waste containers easily. Developers should ensure storage areas are designed in a manner that avoids containers being blocked by other containers, inward opening doors, or any other obstruction so that each container is easy to access, use and remove to the collection point (without the need to move another container) and have suitable surface that allows the movement of wheeled bins.

Door widths must be appropriate for the safe removal and return of the largest size of container likely to be used; double doors may be necessary to satisfy easy access in some communal storage areas. Collectors should be able to secure doors open by provision of a latch or similar designed method to facilitate safe moving of bins from communal storage points.

Developers should be mindful that access is required to the handles to enable safe removal and use of containers. On two-wheeled bins, the handles are located behind the lid hinge. In larger four-wheeled bins used in communal collections, the location of the bin handles varies depending on the manufacturer's model – handles can be located on the sides of the bin, for easy 2-person operation. Recycling boxes have handles on the narrow edge. Food bins have a handle at the top which activates the locking mechanism to prevent access by vermin – space must be provided to enable the handle to be swung from the front, up and over to the back of the container and back again within the storage location.

Sufficient space must be provided to enable opening of lids for all containers, and where multiple recycling boxes are used these must not be stacked as this impedes filling of boxes by the occupants.



Document H section 1.4 states *“Where enclosures, compounds or storage rooms are provided they should allow room for filling and emptying and provide a clear space of 150mm between and around the containers. Enclosures, compounds or storage rooms for communal containers should be a minimum of 2m high. Enclosures for individual containers should be sufficiently high to allow the lid to be opened for filling. The enclosure should be permanently ventilated at the top and bottom and should have a paced impervious floor.”* SWP considers Document H6 guidance a minimum requirement.



Developers must provide suitable clear, flat surface for safe manoeuvring of wheeled bins and other containers by occupants and collectors to minimise risk of injury from manual handling and slips, trips or falls when moving containers from storage area to the collection point. If a path needs to be constructed to comply with this requirement, it should be a minimum of 1200 mm wide with a solid surface to facilitate wheeling the bins. Cambers must be avoided – even moderate cambers can make handling of heavy wheeled bins dangerous and result in refusal to collect by SWP for health and safety reasons and/or to minimise risk of property damage.



Gradients should not exceed 1:12 and steps must be avoided between waste storage area and nearest access point for the collection vehicle for four-wheeled bins and wherever practicable for two-wheeled bins (although up to 3 steps is acceptable in the case of two-wheeled bins) as indicated in Document H and BS5906.



Sufficient clearance should also be provided between the storage area and the collection point to minimise risk of injury to the person(s) moving the container and damage to property, i.e. in addition to the width required for the container. Particular care should be taken to allow sufficient space for safe manoeuvring of containers through doorways and angled and/or enclosed walkways.

6.0 Reducing odour, vermin, and antisocial behaviour problems

Solid waste storage areas must be designed and sited so as not to be prejudicial to health to satisfy requirements outlined in Document H6. This includes the following:

- External storage areas for waste containers should be away from windows and ventilators and preferably be in shade or under shelter;
- Open storage of waste should be secure to prevent access by vermin;
- Any compound for the storage of waste should be secure to prevent access by vermin unless waste is to be stored in secure containers with close fitting lids.
- Communal storage areas should have provision for washing down and draining floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.

Social acceptability is also important to encourage correct use of containers to separate materials for recycling and composting. Developers should be mindful to minimise visual impact of all domestic waste storage areas and design out anti-social behaviour where waste storage areas are publicly accessible.

Vandalism of containers causes inconvenience to occupants through disrupted collections and in extreme cases where SWP deems insufficient action has been taken to prevent repeated vandalism, the cost of replacing containers may be directly charged to the owner(s) of the property which require replacements.

7.0 Access for collection vehicles

BS 5906 gives guidance on how street layouts and geometry should be designed to allow reasonable convenience for the collecting vehicle and waste collectors in sections 8.8.23 - 8.8.26.

Key points within BS 5906 are:

- Tracking software should be used as a matter of routine to test layouts for accessibility by vehicles.
- A minimum street width of 5m is recommended, but narrower widths can be used if on street parking is discouraged with the street width.
- Cul-de-sacs should provide turning circles.
- Vehicles reversing cause a significant hazard in waste collection and the maximum recommended distance should be 12m in a straight route free from obstacles and visual obstructions.

In addition, collection vehicles should not reverse into the development from a major road, or reverse onto a major road when exiting the development (see <http://www.highways.gov.uk> for the definition of a 'major road').



In Somerset, recycling collection vehicles are loaded from the sides, whereas loading of a refuse vehicle takes place from the rear.

The sizes and weights of vehicles vary and change over time. For this reason, dimensions and weights of waste collection vehicles in Somerset are given in 'SWP Waste Collection Vehicle Specifications'.



Waste and recycling collection vehicles will only travel along roads that have been constructed to Somerset County Council adoptable highway standards. Where a road is un-adopted, an area must be created for a suitable bin collection area adjacent to the highway.

Developers must ensure sufficient space for safe vehicular access, loading and operation of equipment (including bin lifts) for vehicles used for SWP kerbside collection services. Adequate height clearance must also be provided, especially with regards to barriers, balconies, trees, cables etc. Specific care should be taken to consider pinch points, parked cars and non-through roads requiring reversing.

Developers must also ensure that road surfaces are appropriate for the weight of vehicles used for SWP kerbside collection services.

Developers are strongly advised to contact SWP to ensure that information in SWP Waste Collection Vehicle Specifications. (Amendments to this document will occur as changes in fleet are planned).

8.0 Facilitating waste segregation inside the home

Providing suitable storage for recycling containers and food waste caddies within the home facilitates waste segregation at source and encourages more effective use of collection services to divert recyclable/compostable material from landfill. As with external storage for waste containers, storage for recycling containers and food waste caddies within the home must be conveniently located, easy to access, use and keep clean.

Furthermore, suitable container storage for residents in blocks of flats can significantly increase fire safety. A well-designed area for containers within each dwelling discourages residents placing containers in a communal hallway which contravenes fire regulations.



9.0 Sustainable Homes

Our homes account for around 27% of the UK's carbon emissions, a major cause of climate change. The Code for Sustainable Homes was introduced to create more environmentally friendly homes and since May 2008 all new homes must report a Code rating against the Code for Sustainable Homes within Home Improvement Packs.

The Code sets standards for improved energy and water efficiency, reduced carbon emissions and encourages home owners to live a more sustainable lifestyle. Credit points are awarded against 9 categories in the Code; these categories include both waste and water. The Code uses a 1 to 6 star rating, setting different 'Code levels' based on the credits awarded carried out by an independent licensed & accredited Code assessor.

The government has stated by 2016 all new homes must be built to zero carbon standards. This will be achieved by tightening of the Building Regulations to ensure higher Code levels are attained.

Mandatory minimum performance standards are set for some issues, including storage of waste and recyclable materials. These requirements must be satisfied whatever Code level rating is sought and credits are not awarded for this.

To improve the Code rating of a development you may also like to consider the following to increase credit points awarded.

- provision of lids for recycling boxes (if not located in a covered store)
- provision of home composting facilities
- provision of water butts to reduce potable water consumption.

Further details on Code for Sustainable Homes can be found on www.planningportal.gov.uk under building regulations and www.communities.gov.uk.

Useful documents include:

- *Greener homes for the Future. The Code for Sustainable Homes.*
- *Code for Sustainable Homes. A step-change in sustainable home building practice December 2006.*
- *Code for Sustainable Homes Technical Guide April 2008.*



10.0 Redevelopments

SWP recognises that redeveloping existing sites can present design constraints when aspiring to satisfy the above guidance. Where redevelopment of a site cannot satisfy the general guidance above, developers must consult with SWP as early as possible in the planning stage.



Design requirements for residential properties –
recycling & waste management.

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